

ATV Derivative Phase 2 – Programme Proposal Executive Summary

Directors Seminar

ATV Derivative Phase 2

- This document contains the revised draft proposal of the European Application of an ATV Derivative phase B2.
- The activity is proposed to maintain and evolve the European knowledge gained in manned and unmanned spacecraft development. Particular focus will be put to develop rendez-vous capabilities with non-cooperative targets being considered as the next technological step towards on-orbit servicing and potential human exploration applications. The ATV derivative is considered as logical continuation of the 3B€ Member States have invested over the last 20 years in the ATV development and exploitation.
- The ATV derivative phase 2 can directly built on the results of VAC phase A/B1 study due to the strong commonality of the TUG being main element of the spacecraft. The phase B2 will result in end 2014 with a preliminary design review (PDR) forming the baseline for C/D proposal to be submitted at the next Conference at Ministerial I Level.
- This proposal is not linked to the ISS Exploitation Programme and its barter element.
- In case the ATV derivative development is not pursued high risk has been identified that Europe will lose its capabilities to develop orbital systems.

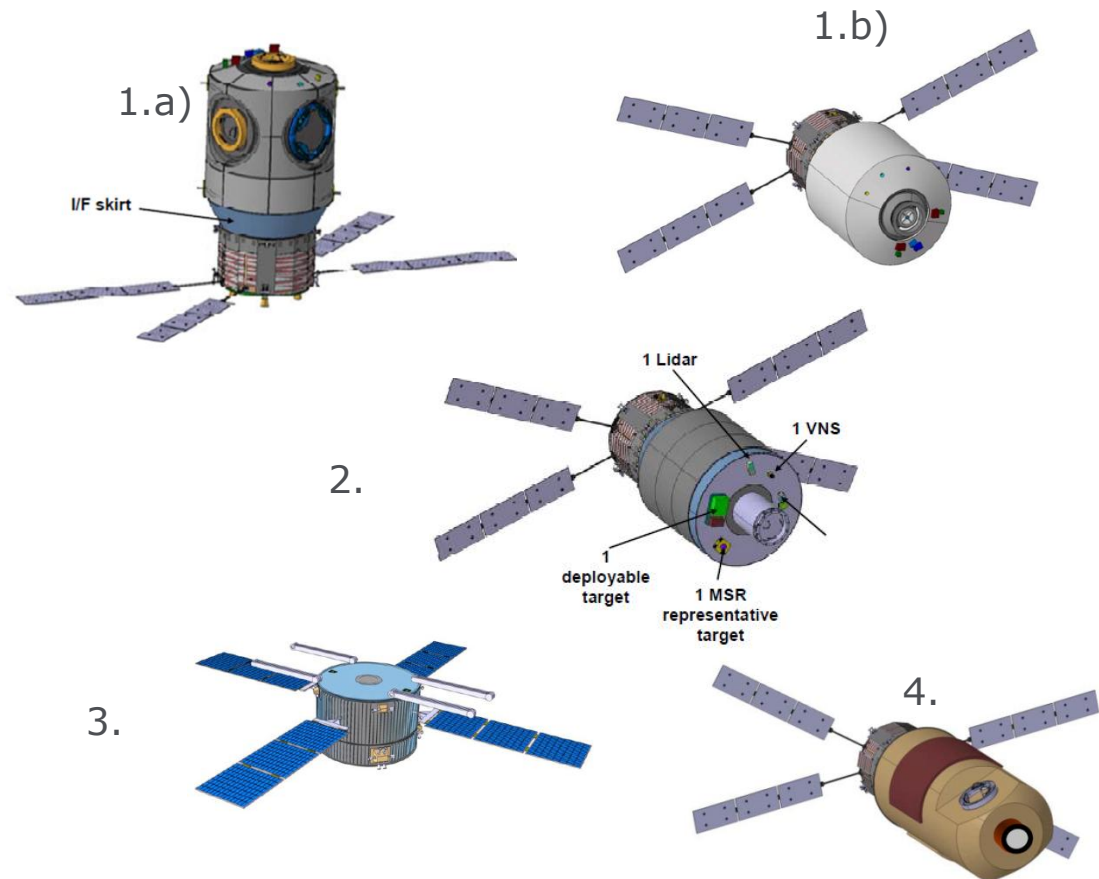
Potential ATV Derivative Application Missions

1.a) + b) logistic mission to LEO infrastructures (station or free-flyer)

2. Single or multiple in-orbit servicing mission

3. In-orbit servicing

4. Free Flyer resource module Significant adaptation of TUG required)



ATV Derivative TUG – the core module

- 3.1 m diameter space tug
- Compatible with launch on Ariane 5, Soyuz
- Capable of RdV with non-cooperative target
- Around 3.8 t propellant storage capability (1 row of ATV tanks)
- Propulsion and Avionics all integrated in the tug, to ensure versatility in P/L transportation
- Allowable mass for a module delivery to LEO about 10.5 t

